

VVSG Wireless Security Overview

Presentation for the NECCC

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<http://vote.nist.gov>

Overview

- NIST and the Technical Guidelines Development (TGDC) updated the Voting Systems Standards (VSS) of 2002
- Election Assistance Commission (EAC) calls this the Voluntary Voting Systems Guidelines (VVSG)
- The VVSG now contains new wireless security requirements

Wireless

- Wireless presents opportunity for intruder access and denial of service
- Important to protect data and access
- Introduces severe risk and should be approached with extreme caution
- Wireless includes radio frequency, infrared, microwave
- Covers
 - WiFi – 802.11x
 - Bluetooth (used to connect to a modem for example)
 - IR (used to connect to cards, printers, etc)

Wireless continued

- Wireless must follow at least the requirements of the existing telecommunications section in the 2002 VSS
- Vendor must document
 - how wireless is employed
 - how threats are mitigated
 - the rationale for its use
- In some cases wireless denial of service cannot be prevented, therefore alternatives must be available or the voting system can be rendered non-functional

Wireless continued

- Must be able to be turned off when not used, must require voting official confirmation when turned on
- Some visible indication that the wireless is turned on
- Wireless traffic must be encrypted and authenticated using US Government Crypto Module Validation Program (CMVP) approved algorithms and implementations
- Voting system must resist denial of service attacks
- Infrared signals must be shielded to prevent escape of the signal

The Bottom Line

- Wireless is risky and demands careful attention
- It's not easy to get it right
- It can fail and therefore demands a robust, convenient backup procedure
- If used in voting, requires strong justification as to its necessity

For More Information...

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 - 301-975-3411, voting@nist.gov
- NIST Voting Site
 - Contains all NIST, TGDC documents, drafts, meetings, etc.
 - <http://vote.nist.gov>